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Presumed Hybridization of Two Species of Box Turtles

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In the course of an examination of Illinois box turtles specimens were recently encountered which cannot be assigned readily either to *Terrapene carolina* or *Terrapene ornata*. This discovery came as some surprise inasmuch as turtles believed to be intermediates by persons unfamiliar with the two species frequently come to the attention of herpetologists, and these supposed intermediates usually prove to be the result of misinterpretation of the comparative differences in pattern which are commonly used in diagnosing these turtles. Three of the specimens at hand, however, exhibit a typical *ornata* pattern so clearly superimposed on the characteristic subadult pattern of *T. c. carolina* that hybridization is strongly indicated.

Two other instances of suspected hybridization of these species have been reported. A specimen from Lake Maxinkuckee, Indiana (Clark, 1935) was believed to be intermediate between the ornate box turtle (*T. o. ornata*) and the eastern box turtle (*T. c. carolina*). Another turtle from Wayne County, Missouri (Shannon and Smith, 1949) was presumed to be intermediate between the ornate box turtle and the three-toed box turtle (*T. c. triunguis*). The subjects of this note provide additional evidence.

The suspected hybrids, ranging in carapace lengths from 79.8 to 91.2 mm., are INHS 3320 from one mile south of Irvington, Washington County; 3494 from Alma, Marion County; and 5956 from Calhoun, Richland County, Illinois. In the accompanying illustration characters of these specimens are compared with those of typical and comparable-sized specimens of *T. c. carolina* and *T. o. ornata*. The intermediate nature of the three supposed hybrids is expressed only by their patterns. They are referable to *ornata* on the basis of general shell conformation, presence of bridges and axillaries, presence of a terminal notch in the upper beak, and absence of a central keel. They are decidedly different in general appearance from *ornata*, however, because of the conspicuous light centers of the lateral laminae.

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The approximately 125 specimens of *T. c. carolina* at hand show extreme individual variation, but there is no indication of *ornata* influence. The 65 specimens of *T. ornata* in the collection include three specimens which suggest possible back-crosses. These three subadults (INHS 3066 from four miles west of Hoosier, Clay County ; 3067 from Cisne, Wayne County ; and 3069 from Ashley, Washington County, Illinois) are similar in size and general appearance to each other. They differ from the specimens figured by the smaller size of the light centers within the lateral laminae. The influence of *carolina* is too weak to be more than suggestive.

Terrapene o. ornata is a Great Plains species, occurring from Wyoming and Arizona eastward roughly to the Mississippi River. The range of this prairie animal extends east of the Mississippi only in the scattered sand prairies of northern Illinois and northwestern Indiana and in a triangular-shaped extension which traverses south-central Illinois to Daviess County, Indiana. *Terrapene c. carolina* is a deciduous forest species, occurring from the East Coast westward to about the Indiana-Illinois line in the north but to the Mississippi River farther south. It is abundant in the southern half of Illinois but absent in the northern half. The six specimens suspected of being hybrids are from the triangular-shaped extension of *ornata* range in south-central Illinois.

The two turtles thus overlap in range in only a few Illinois and Indiana counties. These areas are characterized by interdigitating prairie and forest. *T. ornata* is apparently restricted to the isolated prairies and *T. carolina* occurs in the wooded areas. The two habitats are so intermingled that it is possible to collect both species almost side by side. The specimens described herein are from the one region in which geographic and ecological factors may be least effective in maintaining reproductive isolation of these two animals. There is no evidence that the general population of either species has been altered inasmuch as samples of the two turtles from these localities do not appear appreciably different or any more variable than samples from other areas.

Literature Cited

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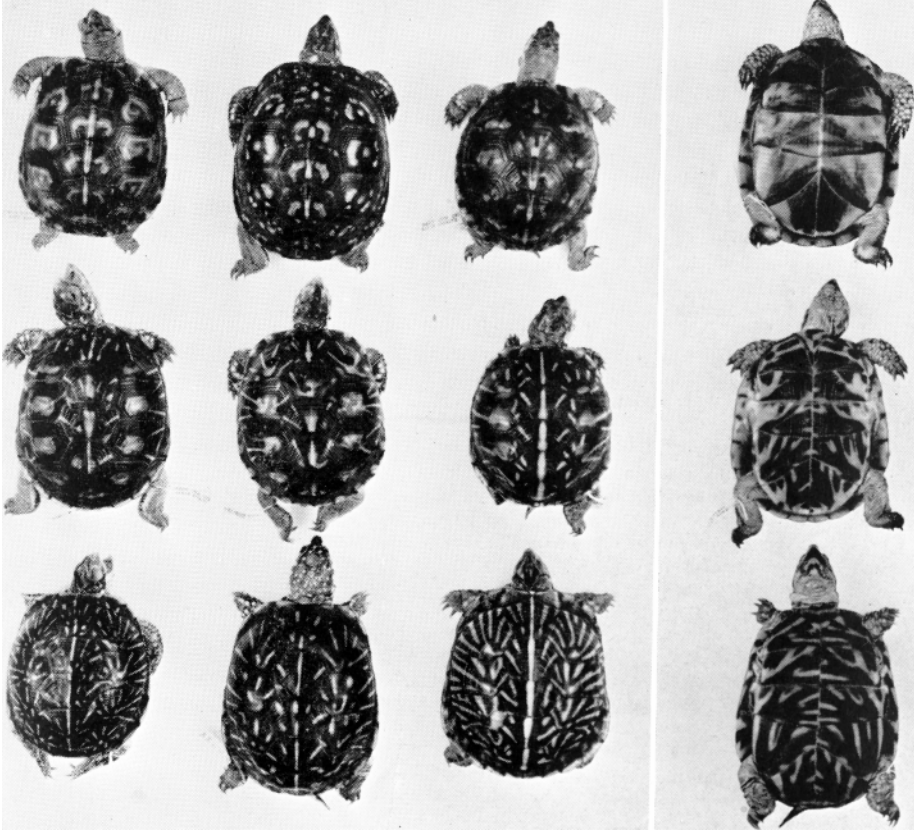


Figure 1. *Terrapene c. carolina*, *Terrapene c. carolina X ornata*, and *Terrapene o. ornata*.

Top row: *T. c. carolina* INHS 4996, Hamilton County; 6123, Washington County; 2165, Jersey County; 6123, Washington County.

Middle row: *T. carolina X ornata* INHS 3320, Washington County; **3494**, Marion County; 5956, Richland County; 3320, Washington County.

Bottom row : *T. o. ornata* INHS 3499, Mercer County; 3988, Marion County; 3205, Carroll County; and 3988, Marion County, Illinois. Photo by Wm. E. Clark.

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